

Evaluation of the Developmentally Delayed Child

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Introduction: Changing attitudes

- ✓ “New Morbidity”: Developmental, Psychosocial, and Behavioral problems
(Haggerty RJ, et.al.; 1975)
- ✓ Developmental delays present in practice
(Dubos AE, et.al.; JDBP 1994)
- ✓ Legal mandate (Part H of the IDEA, PL 102-119)



Introduction: Changing attitudes

Changes in the Pediatricians' approach to developmental problems - 1976 vs 1993

- ✓ Less likely to rely upon Hx and PE alone to confirm suspicion of MR ($p < .01$)
- ✓ More likely to refer for further assessment ($p < .01$)
- ✓ More likely to refer S/L delay for hearing assessment ($p < .05$)

Dubos, AE et.al. JDBP, 15:
34-38 1994



Changing Attitudes: Rationale

- ✓ Early intervention critical for later success
(Shonkoff JP et. al. Ped 1987)
- ✓ Plasticity of less-differentiated brain is particularly responsive to environmental influences
(Dworkin PH et.al. Contemp Ped 1997)
- ✓ Avert/prevent psychosocial difficulties



Rationale for Early Detection

Environmental Risk

- ✓ Title I, Elementary and Secondary Education Act
- ✓ Less special education
- ✓ Decrease likelihood of grade retention
- ✓ Fewer drop-outs

Physical Disabilities

- ✓ Improved family functioning



Rationale for Early Detection: Benefit

Pediatrician Impressions: Childhood Disabilities that Benefit from Early Identification

- | | |
|-------------------------|------|
| ✓ Cerebral Palsy | 89% |
| ✓ Mental Retardation | 88% |
| ✓ Learning Disabilities | 98% |
| ✓ Language Disabilities | 100% |



Goals and Objectives

- ✓ Review the work-up for developmental delays
- ✓ Review history and physical examination
- ✓ Be able to decide which laboratory tests are indicated to evaluate the DD child
- ✓ Have a working knowledge of the medical conditions contributing to DD
- ✓ Gain a repertoire of interventions for the developmentally delayed child



Surveillance “Screening” Tests

- ✓ Battelle Developmental Inventory Screening Test
- ✓ Brigance Screens
- ✓ Bayley Infant Neurodevelopmental Screening
- ✓ Denver II
- ✓ Developmental Surveillance
 - ✓ Appraisals
 - ✓ Descriptions



Developmental Surveillance

- ✓ Parents' Concerns: Accurate indicators: speech/language, fine motor, general function
- ✓ Estimations: ~developmental level
- ✓ Predictions: likely overestimate
- ✓ Recall: notoriously unreliable
- ✓ Report: more accurate



Parent Questionnaires

Ages and Stages Questionnaire (ASQ)

- ✓ 11 age specific (4-48 mos) questionnaires 30 items each
- ✓ 15 minutes to complete
- ✓ Acceptable sensitivity, specificity, reliability

Child Development Inventories (CDI)

- ✓ 3 inventories (infant, toddler, preschool)
- ✓ 60-75 “Yes/No” items each
- ✓ 20 minutes to complete
- ✓ Relatively good reliability and validity



Parent Questionnaires

Parents' Evaluation of Developmental Status (PEDS)

- ✓ 0-84 months of age
- ✓ 5 minutes to complete
- ✓ Remarkably good reliability, validity, sensitivity, and specificity
- ✓ 10 questions



10 Questions on PEDS

- ✓ Please list any concerns about your child's learning, development and behavior?
- ✓ Do you have any questions about how your child...
 - talks and makes speech sounds?
 - ... understands what you say?
 - ... uses his or her hands and fingers to do things?
 - ... uses his or her arms and legs?
 - ... behaves?
 - ... gets along with others?
 - ... is learning to do things for himself/herself?
 - ... is learning preschool or school skills?
- ✓ Please list any other concerns.



Common Presenting Complaints

- ✓ Delayed development (< 2 years)
- ✓ Abnormal tone (< 2 years)
- ✓ Speech delay (2 - 6 years)
 - ✓ The most common presentation of mental retardation
- ✓ School failure (> 6 years)



Don't Make These Mistakes !

- ✓ Explained away as “normal variation”
- ✓ “Will grow out of it”
- ✓ “Lazy”
- ✓ Parents or siblings “talk for him”
- ✓ Need close follow-up to confirm true delay or document normal outcome



“Developmental Delay”

- ✓ Limited rate of learning or acquisition of skills compared to peers of same chronological age
- ✓ Implies that normal development will eventually be achieved (to parents)
- ✓ A complaint NOT a diagnosis
- ✓ Frequently used to avoid terms:
 - ✓ mental retardation
 - ✓ cerebral palsy
 - ✓ autism
 - ✓ learning disability



Why Evaluate if You Can't Fix It ?

- ✓ Confirm the delay
- ✓ Classify the delay(s)
- ✓ Establish an etiologic diagnosis
- ✓ Prognosis for child
- ✓ Genetic counseling
- ✓ Educational and rehabilitative services
- ✓ Predict and treat associated medical problems (seizures, tone, attention...)
- ✓ Adjust parental expectations



How to get started



A

C

E

B

A

B

E

History: Prenatal Risk Factors

- ✓ Alcohol use
- ✓ Illicit drug use
- ✓ Smoking
- ✓ Medications (teratogens ?)
- ✓ Toxin exposure
- ✓ Infections, fevers, rashes
- ✓ Maternal illness (HIV, eclampsia, DM)
- ✓ Fetal movements
- ✓ Oligo- or poly-hydramnios
- ✓ Multiple gestation



History: Perinatal Problems

- ✓ Premature versus term
- ✓ Breech presentation
- ✓ C-section (why ??)
- ✓ Chorioamnionitis
- ✓ Fetal distress ? Resuscitation ? Apgars ?
- ✓ Birth weight and length (IUGR - syndrome ?)
- ✓ NBN versus NICU
- ✓ Neonatal seizures
- ✓ Feeding difficulties
- ✓ Severe hyperbilirubinemia



Postnatal: Damage to Normal Brain

- ✓ Head trauma
- ✓ CNS infection
- ✓ Asphyxia
- ✓ Exposure (lead)
- ✓ Epilepsy
- ✓ Recurrent otitis



Family History

- ✓ Consanguinity
- ✓ Are these the biological parents ?
- ✓ SIDS (inborn error of metabolism ?)
- ✓ Miscarriages (chromosomal ?)
- ✓ Mental retardation
- ✓ Learning difficulties
- ✓ Developmental delays
- ✓ Epilepsy
- ✓ Autism
- ✓ Psychiatric problems



Co-existing Medical Issues

- ✓ Seizures
- ✓ Vision and hearing problems
- ✓ Sleep disturbance
- ✓ Feeding problems
- ✓ Behavioral problems
- ✓ Puberty and menses



Developmental History

- ✓ Milestones achieved when
- ✓ Handedness < 1 year ?
- ✓ Arrest or regression of skills ?
- ✓ Current services
 - ✓ OT, PT, speech
 - ✓ special education
 - ✓ adaptive equipment



Developmental Quotient (DQ)*

$$DQ = \frac{\text{Developmental Age}}{\text{Chronological Age}} \times 100$$

Delay (< 70)

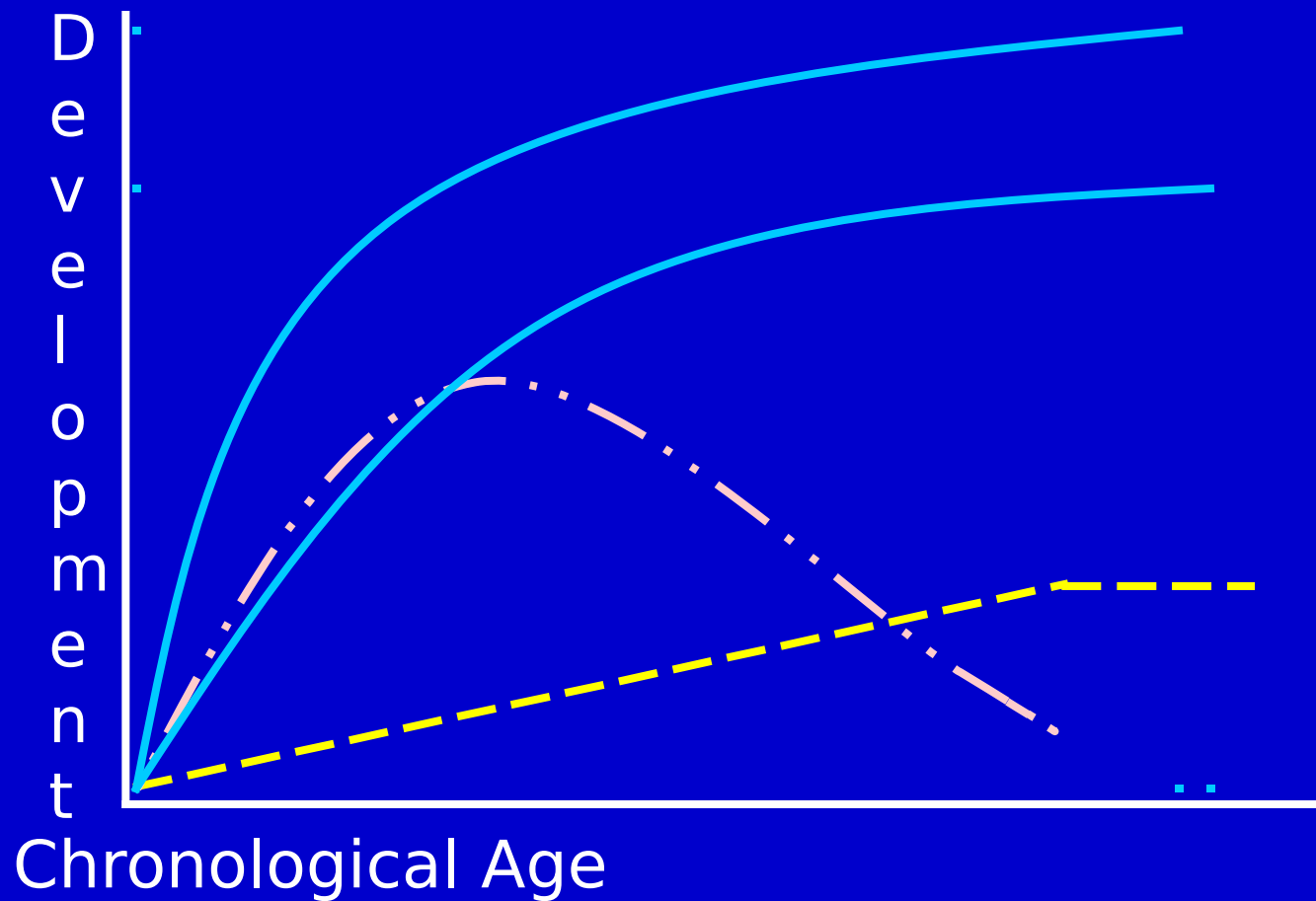
Borderline (70 - 85)

Normal (>85)

*Perform for each area of development
Speech DQ is a fairly good predictor of IQ



Slow progress or Loss ?



Appearance of regression

- ✓ Misperception (Rolled over...once)
- ✓ Seizures affecting development
- ✓ Spasticity developing over time
- ✓ Hydrocephalus
- ✓ Movement disorders



Physical examination

- ✓ Height, weight, FOC (including shape)
- ✓ Dysmorphic - (Smith's or genetics database)
- ✓ Eyes (visual acuity, cataract, strabismus, ophthalmoplegia, retina/optic nerve)
- ✓ CV: murmur
- ✓ Organomegaly - storage disorders
- ✓ Extremities and spine
- ✓ Skin
- ✓ GU
- ✓ Neurodevelopmental exam



Neuron or a myelin problem ?

Gray Matter Disorders

- ✓ Seizures
- ✓ Dementia (MR)
- ✓ Visual loss
- ✓ Movement disorder

White Matter Disorders

- ✓ Spasticity
- ✓ Ataxia
- ✓ ↑ DTR's
- ✓ Visual loss
- ✓ ↑ CSF protein



At the end of your history...

- ✓ Static or degenerative disorder ?
- ✓ Present development (DQ)
- ✓ Which skills are delayed ?
- ✓ Genetic etiology ?
- ✓ Pre-, peri-, and post-natal risk factors
- ✓ Current therapy and education
- ✓ Family's understanding and concerns



What areas are delayed ?

- ✓ Gross motor
- ✓ Fine motor
- ✓ Speech and language
- ✓ Speech and social
- ✓ Personal-social
- ✓ Academic/Intellectual
- ✓ Global



Case 1: The child with motor delay

8 month comes into the office with the complaint by the mother that the child is not yet able to sit independently.

- ✓ What history do you want to know ?
- ✓ Focus of the physical examination ?
- ✓ What labs are recommended ?



Case 1: The child with motor delay

- ✓ Often the first concern of parents
- ✓ Abnormal tone
- ✓ Early handedness
- ✓ Delayed skills compared with peers or sibs
- ✓ Weakness
- ✓ Unusual movements
- ✓ Loss of skills ??



Normal motor development

- ✓ 1 month raise head slightly from prone
- ✓ 2 months head up 45 degrees, less fisting
- ✓ 4 months roll prone to supine, hands midline
no head lag with traction
- ✓ 6 months sitting, raking for objects, transfer
- ✓ 9 months crawl, thumb-finger grasp,
pull to stand, get to sitting
- ✓ 12 months walk with support, neat pincer
- ✓ 15 months walking (95 %), scribbles



Normal motor development...

- ✓ 18 months 2 - 3 cubes, run, walk back, steps
- ✓ 24 months throw, kick, 6 cubes
- ✓ 30 months jumps off ground, vertical lines
- ✓ 3 years alternate feet on stairs, tricycle, broad jump, copy circle, undress
- ✓ 4 years hops, alternate feet down stairs, copy a square, dresses, buttons, catch a ball
- ✓ 5 years ride bicycle, skip, tie shoes, copy triangle



Motor delay: Differential

- ✓ Problem of CNS control
 - ✓ Cerebral palsy
 - ✓ Mental retardation
 - ✓ Syndrome (Down, Prader-Willi, Angelman...)
 - ✓ “Central” hypotonia
- ✓ Developmental coordination disorder
- ✓ Neuromuscular disorder
- ✓ Ligamentous laxity
- ✓ Orthopedic problem
- ✓ Visual impairment
- ✓ Degenerative disorder



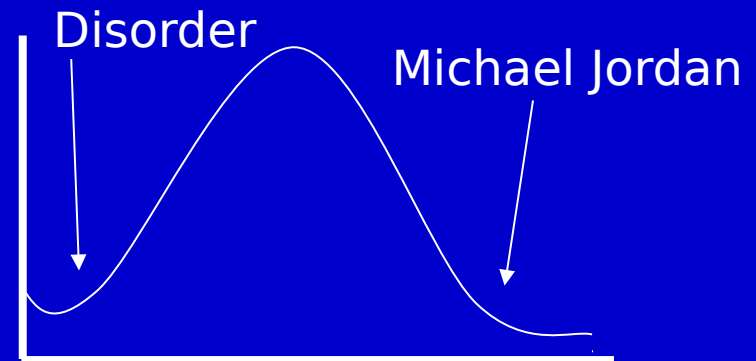
“Central” hypotonia

- ✓ An impression, not a true diagnosis
- ✓ Motor delays
- ✓ Poor trunk and head control
- ✓ Normal strength
- ✓ Normal or brisk reflexes
- ✓ Often with speech or global delays
- ✓ Requires evaluation for etiology



Developmental Coordination Disorder

- ✓ “Clumsy” child
- ✓ Normal strength
- ✓ Decreased tone
- ✓ Joint laxity
- ✓ “Soft” signs
- ✓ Poor fine motor coordination



Cerebral Palsy

Disorder of movement and posture due to a static lesion of the developing brain

- ✓ Abnormal tone (spastic, hypotonic, ataxic, dyskinetic)
- ✓ Topography
 - ✓ diplegia (LE > UE)
 - ✓ hemiplegia (UE > LE on same side)
 - ✓ quadriplegia (UE and LE)
 - ✓ paraplegia (LE only)
- ✓ Increased DTR's
- ✓ Primitive reflexes present
- ✓ Clonus, Babinski



Neuromuscular disorders

- ✓ Weakness
 - ✓ proximal = muscle
 - ✓ distal = nerve
- ✓ Hypotonia
- ✓ Depressed reflexes
- ✓ Delayed acquisition of motor skills



Ligamentous laxity

- ✓ Instability of joints
- ✓ Joint hypermobility
 - ✓ thumb to forearm
 - ✓ foot to tibia
 - ✓ elbow hyperextension
 - ✓ hyperextension at knees
- ✓ Normal strength
- ✓ Motor clumsiness



Motor Delays

Tone

Regression

truncal

Decreased

Increased

generalized

"Central" Hypotonia

Strength

normal

decreased

Reflexes

normal or brisk

depressed

Cerebral Palsy

MR, Syndrome

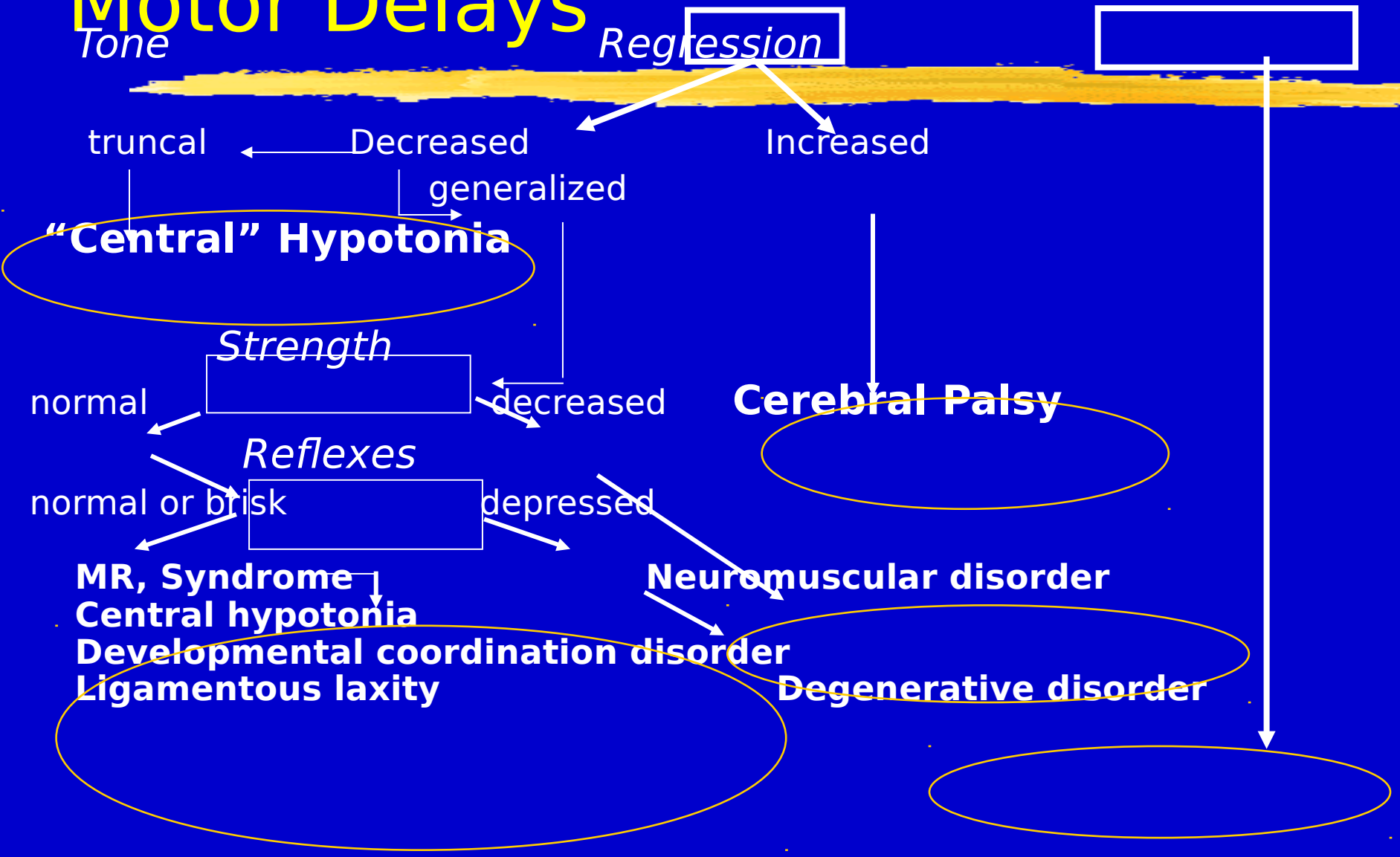
Central hypotonia

Developmental coordination disorder

Ligamentous laxity

Neuromuscular disorder

Degenerative disorder



Evaluation of motor delays*

“Central” or CNS disorder

- ✓ Brain MRI
- ✓ Chromosomes ?
 - ✓ Dysmorphic features
- ✓ FISH of chromosome 15
 - ✓ Prader-Willi
 - ✓ Angelman syndrome
- ✓ Fragile X ?
- ✓ Metabolic work-up ?

Neuromuscular disorder

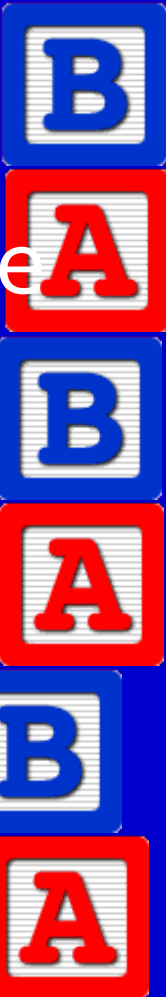
- ✓ CPK
- ✓ SGOT, SGPT
- ✓ Aldolase
- ✓ ESR
- ✓ Lactate
- ✓ TFT's
- ✓ Carnitine
- ✓ EMG/NCV
- ✓ Muscle biopsy

*Occupational and Physical therapy involvement

Case 2: The child with language delays

The mother of a 15 month old comes into the office with the concern that the child is not talking.

- ✓ What history do you want to know ?
- ✓ Focus of the physical examination ?
- ✓ What labs are recommended ?



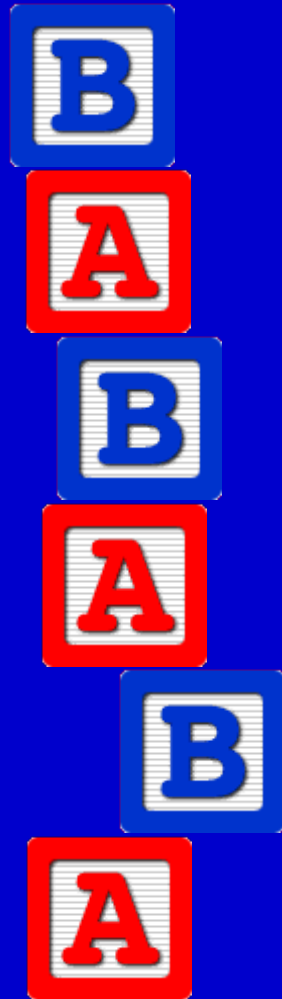
Case 2: The child with language delays

- ✓ 5 - 10 % of all children
- ✓ May not be appreciated by new parents
- ✓ An indicator of cognitive abilities
- ✓ Risk for reading and spelling problems
- ✓ Associated behavior problems ?



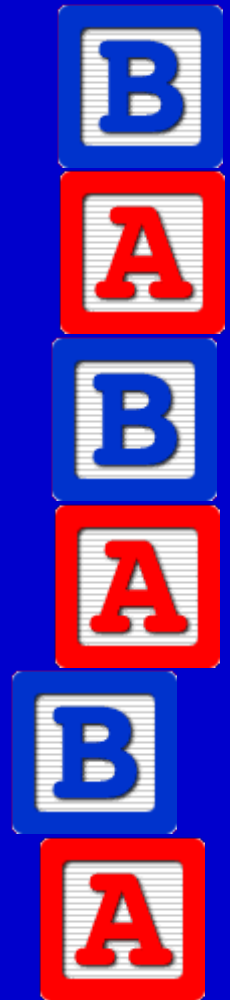
Normal language

- ✓ 1 month alert to sound
- ✓ 2 months “coos”
- ✓ 4 months laughs, squeels
- ✓ 6 months babble consonants
- ✓ 8 months “dada” nonspecific
- ✓ 12 months “dada” “mama” plus another word
- ✓ 18 months 20 words, knows body parts
- ✓ 24 months 50 words, combine 2, 1/2 intelligible
- ✓ 36 months 250 words, 3 word phrases, 75%
- ✓ 48 months little adult, questions, colors, songs, 100%



Language delays: Differential

- ✓ Developmental language disorder
- ✓ Phonological disorder
- ✓ Mental retardation
- ✓ Hearing problem
- ✓ Autism
- ✓ Neglectful environment
- ✓ Pseudobulbar palsy
- ✓ Epileptiform aphasia



Speech and language delays

Etiology

Prevalence

Developmental
language disorder

e
5 - 10 %

Mental retardation

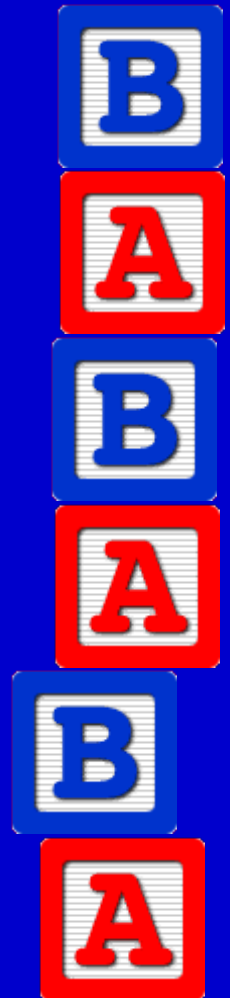
3 %

Hearing loss

0.5 - 1 %

Autism

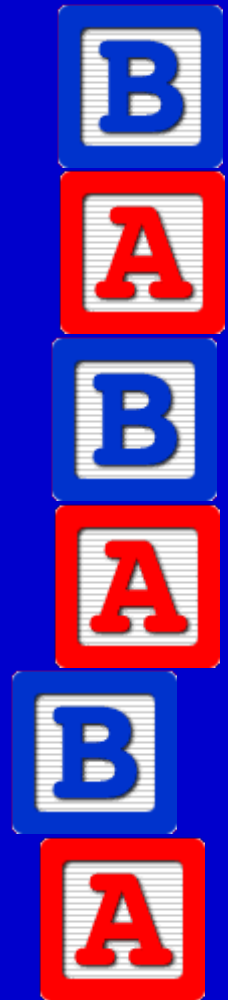
0.2 %



Developmental language disorders

- ✓ Auditory comprehension disorder
- ✓ Expressive disorder
- ✓ Verbal auditory agnosia
- ✓ Mixed receptive-expressive disorder
- ✓ Verbal dyspraxia
- ✓ Phonological disorder

Confusing terminology ????



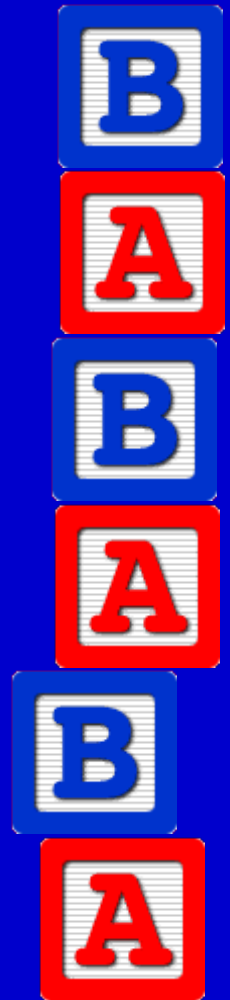
Developmental language disorders : Bottom line

- ✓ Normal intelligence
- ✓ Normal hearing
- ✓ Normal tongue and palate movements
- ✓ Normal social environment
- ✓ Difficulty understanding language, developing language, or pronouncing words
- ✓ Categorized as:
 - ✓ expressive language disorders
 - ✓ receptive language disorders
 - ✓ articulation (phonological) disorders
 - ✓ mixed expressive and receptive language disorder



Speech and social delays

- ✓ Autistic disorders
 - ✓ Autism
 - ✓ Pervasive developmental disorder
 - ✓ Asperger's syndrome
- ✓ Landau-Kleffner syndrome
- ✓ Childhood disintegrative disorder
- ✓ Rett syndrome



Autistic disorders

- ✓ A spectrum: Autism, PDD, Asperger's
- ✓ Onset < 36 months boys > girls
- ✓ Impaired language and communication
- ✓ May lose early language (a few words)
- ✓ Echolalia, scripted phrases
- ✓ Impaired social and peer interactions
- ✓ Poor eye contact
- ✓ Lack social or emotional reciprocity
- ✓ Restricted interests and activities
- ✓ Impaired play and imagination
- ✓ Stereotyped behaviors (rocking, flapping)



Landau-Kleffner Syndrome

- ✓ Acquired epileptiform aphasia
- ✓ Normal development and language by 4 yrs
- ✓ Develop “word deafness” (auditory agnosia)
 - ✓ words, doorbell, phone ringing...
- ✓ Expressive language regression
- ✓ Behavior problems
 - ✓ hyperactive, aggressive, PDD sx
- ✓ Normal hearing
- ✓ Seizures in 2/3
- ✓ Abnormal EEG, especially during sleep



Rett Syndrome

- ✓ Girls
- ✓ Deceleration of head growth
- ✓ Loss of purposeful hand use
- ✓ Hand wringing
- ✓ Loss of speech
- ✓ Social withdrawal, autism
- ✓ Respiratory irregularity
- ✓ Mental retardation



Speech delays: Evaluation

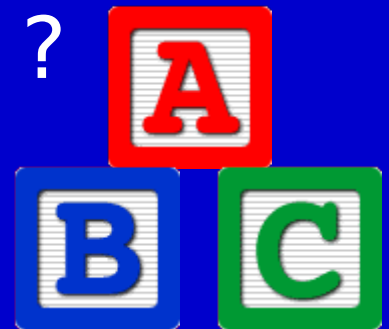
- ✓ Early Language Milestone Scale (< 3 years)
- ✓ Peabody Picture Vocabulary Test
- ✓ Audiological evaluation
- ✓ EEG (if loss of language)
- ✓ Ask about social skills !!
- ✓ Fragile X (for suspected autism)
- ✓ Speech therapy



Case 3: Academic difficulties

Seth, a 9 year old, comes in with his mother who is frustrated that his teacher is sending home notes daily that he is not getting his work done.

- ✓ What history do you want to know ?
- ✓ Focus of the physical examination ?
- ✓ What labs are recommended ?



Case 3: Academic difficulties

- ✓ Often not identified until early elementary school
- ✓ Associated with early speech delay
- ✓ Often familial
- ✓ Co-morbidity (ADD, behavior problems)
- ✓ Need feedback from parents and teachers
- ✓ Also seen in “bright” children



Problems in school: Causes

- ✓ Learning disability
- ✓ Mild mental retardation
- ✓ Attention deficit disorder
- ✓ Vision or hearing problems
- ✓ Psychosocial/Psychiatric problems
- ✓ Abuse or neglect
- ✓ Chronic illness
- ✓ Epilepsy
- ✓ Drugs



Learning disabilities

Significant difficulties in listening, reading, mathematics, writing, or reasoning.

- ✓ Significant ability-achievement discrepancy
- ✓ Prevalence: $> 10\%$
- ✓ Normal intelligence
- ✓ Motivated
- ✓ Adequate learning opportunities
- ✓ No physical, emotional, or social issues
- ✓ May be missed in bright children



Learning disabilities

- ✓ Dyslexia
- ✓ Disorder of written expression (dysgraphia)
 - ✓ handwriting
 - ✓ spelling
 - ✓ written syntax
- ✓ Developmental math disorder (dyscalculia)
- ✓ Disorder of listening comprehension



Developmental Reading Disorder - Dyslexia

- ✓ The most common LD (5 - 10 %)
- ✓ A lifelong problem with reading
- ✓ Decreased phonemic awareness (letters represent the sounds heard in the spoken word - e.g. "CAT" cuh, aah, tuh) resulting in:
 - ✓ inaccurate and labored oral reading
 - ✓ difficulty reading unfamiliar or nonsense words
 - ✓ slow silent reading
 - ✓ poor spelling



School difficulties: Evaluation

- ✓ Need detailed history starting from Kg
 - ✓ strong and weak academic areas
 - ✓ degree of effort from child and parents
 - ✓ currently performing at what grade level ?
 - ✓ Special education services now or in past ?
- ✓ Feedback from teacher including report cards
- ✓ Examples of schoolwork, drawings
- ✓ Family history
- ✓ Have them read, spell, math, draw
- ✓ Intelligence and achievement testing



“Global developmental delay”

- ✓ A significant delay in 2 or more developmental areas
- ✓ NOT a diagnosis
- ✓ used (for physician comfort) in place of:
 - ✓ mental retardation
- ✓ Correct term “static encephalopathy”
- ✓ regression is something else !!



Static encephalopathy (MR)

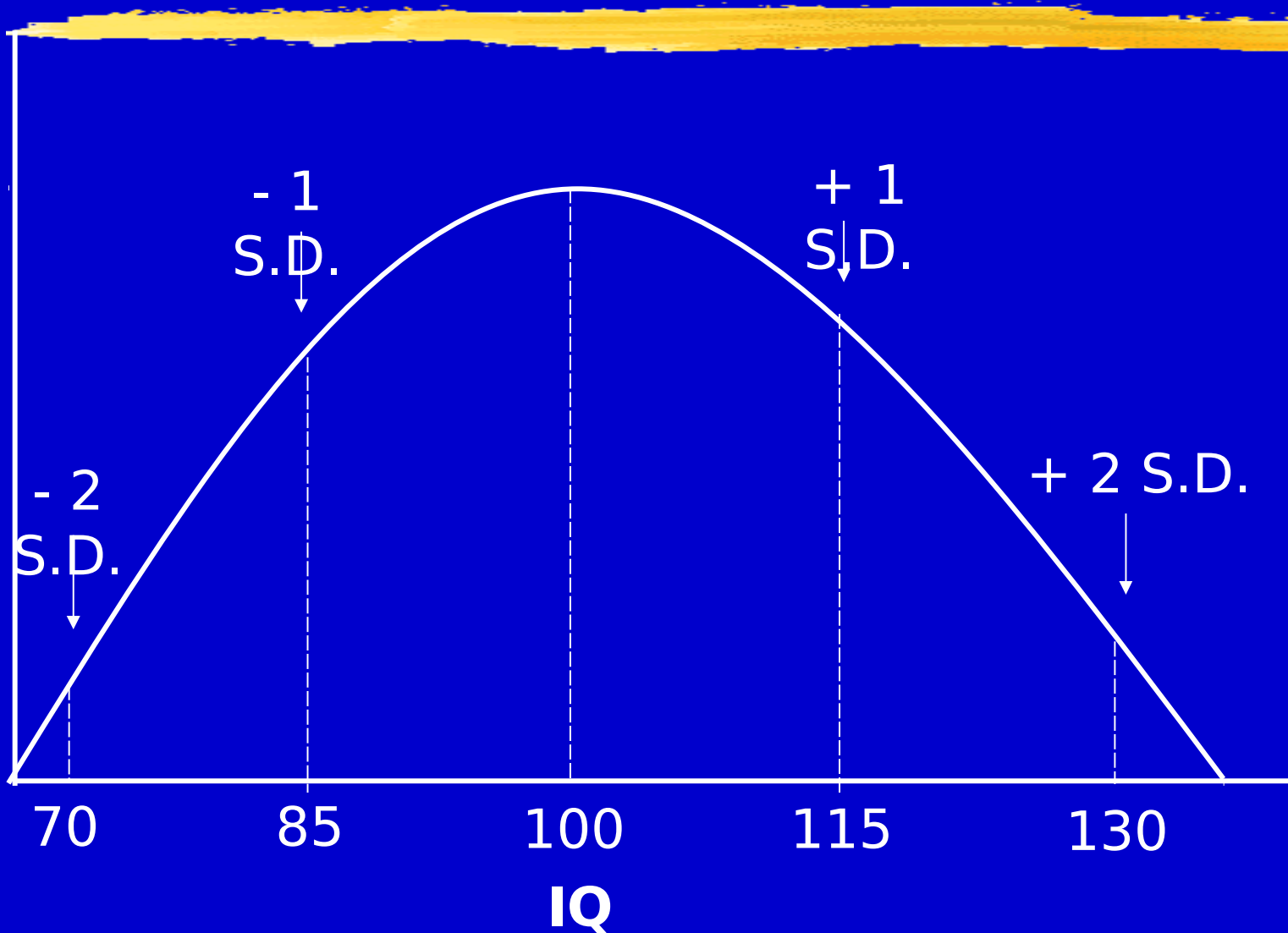
Subaverage intellectual functioning that originates in the developmental period and is associated with

impairment in adaptive behavior (communication, self care, social skills, health and safety, academics, self direction, leisure and work)

(IQ < 2 S.D. below mean)



Mental retardation



Mental retardation

- ✓ 3% of the population
- ✓ ♂:♀ = 1.6 : 1

Most common genetic cause	=	Trisomy 21
Most common inherited cause	=	Fragile X
Most common preventable cause	=	
Fetal Alcohol		



Mental retardation

- ✓ Mean IQ = 100 1 S.D. = 15
- ✓ 71 - 84 “Borderline”
- ✓ < 70 Mild }
- ✓ < 55 Moderate }
- ✓ < 40 Severe }
- ✓ < 25 Profound }
- ✓ The likelihood of finding an etiology for a child increases with the severity of the MR
 - ✓ 45 - 65 % of mild MR is “idiopathic” after evaluation
 - ✓ 20 - 40 % of severe MR is “idiopathic”



Mental retardation: Identified Causes

Prenatal (60 - 75 %)

- ✓ Brain malformation
- ✓ Chromosomal anomaly
- ✓ Syndrome
- ✓ Genetic (familial)
- ✓ Toxins (ETOH, drugs)
- ✓ Infection (TORCH, HIV...)
- ✓ Neurocutaneous syndromes
- ✓ Malnutrition

Perinatal (10 %)

- ✓ Hypoxia
- ✓ Neonatal seizures

Postnatal (1 - 10%)

- ✓ CNS infection
- ✓ Hemorrhage / Stroke
- ✓ Trauma / Abuse
- ✓ Hypoxia
- ✓ Degenerative
- ✓ Epileptic encephalopathy
- ✓ Metabolic
- ✓ Complications of prematurity



Don't rush to blame OB/GYN

Birth asphyxia is seldom responsible for mental retardation in the absence of cerebral palsy and symptoms during the newborn period (lethargy, seizures...).



Static global delays: Work-up

- ✓ Brain MRI
 - ✓ cerebral injury
 - ✓ cerebral malformations
 - ✓ gray versus white matter disease
 - ✓ subtle markers of cerebral dysgenesis
 - ✓ delayed myelination
- ✓ EEG
 - ✓ if hx of seizure-like activity
- ✓ Check results of newborn screen
- ✓ Metabolic work-up ?
- ✓ Chromosomes
 - ✓ dysmorphic features
- ✓ Fragile X
 - ✓ all idiopathic MR and autism



Inborn error of metabolism ?

- ✓ Consanguinity
- ✓ Family history of MR
- ✓ SIDS
- ✓ Progressive disorder, regression
- ✓ Symptom-free period
- ✓ Intermittent lethargy or coma
- ✓ Intermittent vomiting
- ✓ Failure to thrive
- ✓ Seizures
- ✓ Unusual odors
- ✓ Organomegaly
- ✓ Ataxia
- ✓ “Coarse” features
- ✓ Eye abnormalities
 - ✓ cataract, retinal, eye mvts
- ✓ Unexplained deafness
- ✓ Abnormal hair
- ✓ Acidosis
- ✓ Hyperammonemia
- ✓ Low cholesterol



Metabolic screening labs

- ✓ Serum amino acids
- ✓ Urine amino acids
- ✓ Urine organic acids
- ✓ Ammonia
- ✓ Lactate
- ✓ U/A - ketones, reducing substance
- ✓ Chem - glucose, anion gap
- ✓ CBC



Case 4: Personal-social problems

A 10 year old is pushed into your office by his father as the mother begins weeping and relating the travails her son is causing at home, in the neighborhood and at school.

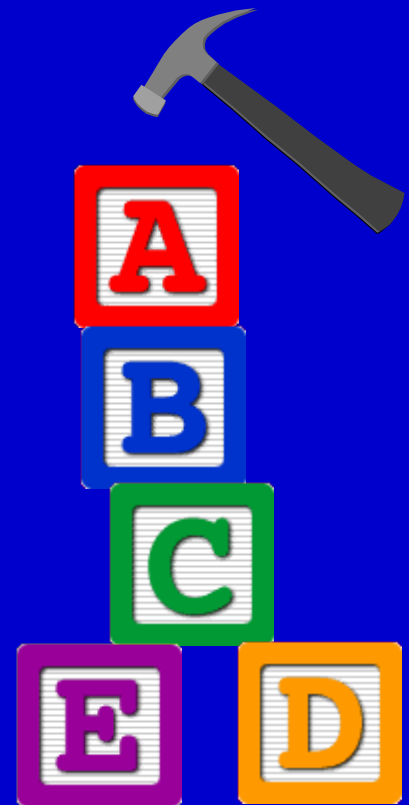
- ✓ What history do you want to know?
- ✓ Focus of the physical examination?
- ✓ What labs are recommended?



Case 4: Personal-social problems

- ✓ Too aggressive
- ✓ Too active
- ✓ Impulsive
- ✓ Tantrums
- ✓ Doesn't play well with others
- ✓ "Strange"

It's never normal to be a bully.



Personal-social problems: possible etiologies

- ✓ Poor psychosocial situation at home
- ✓ Abuse
- ✓ Oppositional-defiant disorder
- ✓ Conduct disorder
- ✓ Attention deficit disorder
- ✓ Episodic dyscontrol (“rage attacks”)
- ✓ Autism



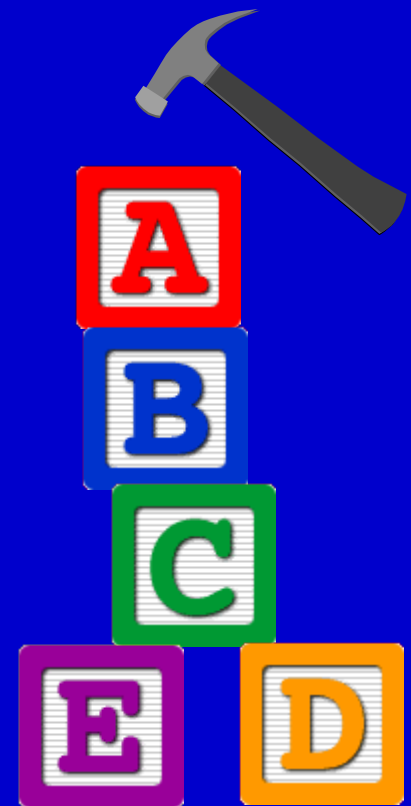
Oppositional-defiant disorder

- ✓ “A kid with an attitude”
- ✓ Defies or refuses adult requests or rules
- ✓ Loses temper easily
- ✓ Argues with adults
- ✓ Deliberately does things to annoy others
- ✓ Blames others
- ✓ Easily annoyed
- ✓ Spiteful or vindictive
- ✓ Angry and resentful



Conduct Disorder

- ✓ A “mean” older kid headed for jail
- ✓ Stealing
- ✓ Running away from home
- ✓ Truancy
- ✓ Lies
- ✓ Fire-setting
- ✓ Vandalism
- ✓ Cruel to animals
- ✓ Physical fights
- ✓ Cruel to other people

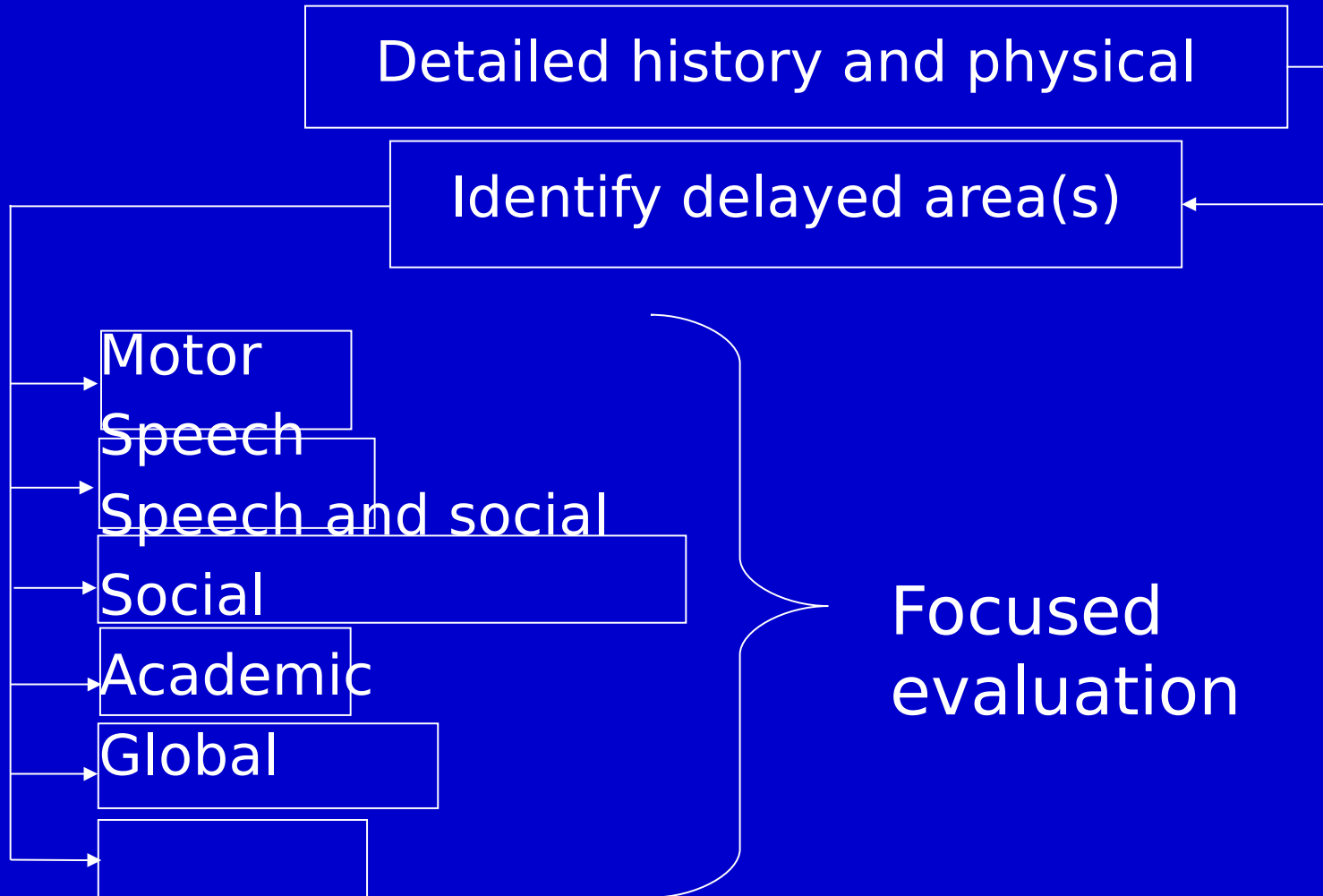


Goals and Objectives

- ✓ Review the work-up for developmental delays
- ✓ Review history and physical exam
- ✓ Be able to decide which lab tests are indicated to evaluate the DD child
- ✓ Have a working knowledge of the medical conditions contributing to DD
- ✓ Gain a repertoire of interventions for the developmentally delayed child



Summary



What you can do to help

Maximize child's potential

- ✓ check vision
- ✓ check hearing
- ✓ physical therapy
- ✓ occupational therapy
- ✓ speech therapy
- ✓ identify and treat co-morbidity
 - epilepsy, spasticity, feeding difficulties, ortho, ADD, sleep
- ✓ early intervention services
- ✓ special education
- ✓ adaptive equipment
- ✓ social work assistance



Remember.....

- ✓ Listen to parents
- ✓ Evaluate suspected delays
- ✓ Identify co-morbid problems
- ✓ Follow developmental progress
- ✓ Assist with intervention
- ✓ Be the child's advocate



Questions/Idea

S

